James Burtle

From: Dave Hallidy [k2dh@frontiernet.net]
Sent: Monday, May 24, 2004 3:43 PM
To: James Burtle; Marc J. Burling; Ed W1RFI Hare; Anh Wride; Riley Hollingsworth; Alan Stillwell
Subject: Second Complaint- BPL Interference in Penn Yan, NY

Importance: High

Complaint #2.doc
(48 KB)

To:
James Burtle, FCC
Marc Burling, CEO Data Ventures Inc.

From: David Hallidy K2DH
1027 Rousseau Drive
Webster, NY 14580
585-872-0942
k2dh@frontiernet.net

cc:
Anh Wride, FCC
Riley Hollingsworth, FCC
Alan Stillwell, FCC
Ed Hare, ARRL

Monday, May 24, 2004

Dear Mr. Burtle:
The attached document lodges my second formal complaint of interference to my Amateur operations while in the city of Penn Yan, New York. This complaint is a continuation of the interference I experienced earlier, which resulted in my original complaint, dated March 28, 2004 and which has, as of today, not been resolved. I would appreciate a response to this complaint as soon as possible. Thank you. Sincerely, David V. Hallidy K2DH

Date of Complaint: May 24, 2004
Name: David Hallidy
Address: 1027 Rousseau Drive, Webster, NY 14580
Telephone Number: (585) 872-0942
FCC-licensed Amateur Radio operator, Callsign: K2DH
Date of interference: May 22, 2004

With this document, I am lodging my second formal complaint of interference to my Amateur Radio operations, caused by interference generated from a Broadband over Power Line (BPL) system being tested in the city of Penn Yan, New York.

BACKGROUND

On March 28, 2004 I lodged my first complaint of interference caused by this system. When I made that complaint, I was informed that "the response time will never exceed 20 days" (FCC autoresponse dated 3/29/04 at 0845AM), "Reports of violations within the Amateur (Ham) Radio Service may be made by email at: fccham@fcc.gov… This includes that from BPL" (response from representative number TSR41, dated 3/30/04 at 0258PM), "Please sign and date your complaint and either fax to me at 717-338-2574… Thank you. Riley Hollingsworth" (email from R. Hollingsworth dated 5/10/04 at 1058AM). I have appropriately responded to these emails, but to date there has been no attempt to contact me or, as this complaint will show, nor any resolution to the interference problem in Penn Yan caused by the Amperion/DVI BPL trial being conducted there. The text of my first complaint is attached at the end of this document for your reference.
At least one other Amateur has experienced the same interference when traveling in the city of Penn Yan- see the formal complaint lodged by William Rogers (K2TER) dated 4/21/04.
I had been informed, in conversations with Mr. Marc Burling (CEO of Data Ventures Inc, the BPL provider) that they had made extensive changes to the system there and had resolved the interference problems.

COMPLAINT

When I arrived in Penn Yan, I proceeded to the BPL injection point (located near the P&C food store on Liberty St) to see if there was anything there. I found the following:
The BPL interference (the classic multiple carriers spaced just over 1kHz apart, accompanied by a "tick-tick-tick"

and/or buzzing) was present beginning at 32.51 MHz at a level of "S-9" and continued without a break to 35.10 MHz, where it then dropped quickly to just above the noise floor of my receiver. The other "leg" of this segment appears to pick up at 36.10 MHz and runs without a break to 39.40 MHz at the "S-9" level. There are low-level "residual" carriers detectable throughout the spectrum from below 32 to above 40 MHz.

Moving away from the injection point, I proceeded North on Liberty St, just about to Court St (the northern end of the test area). I could still easily hear the 32 to 39 MHz signals- they were still above "S-7" on my Yaesu FT-100D. But, I had moved to where I thought the next segment began (I was sitting under the line at what I guessed to be a repeater/extractor) and found the next segment as follows: The same type of interference that I heard at the first location was present beginning at 22.20 MHz at levels above "S-9" (actually closer to S-9+20dB) and continuing without a break to 24.910 MHz. The signal quickly dropped down to just above the noise (but never disappeared completely inside the 12m band) and resumed at full strength at 25.04 MHz up to 25.92 MHz. This is only one half of this segment, so I continued looking for the other portion. I found it at 17.36 MHz, continuing without a break to 21.10 MHz. There was full-strength BPL in the 17m band (18.068-18.168 MHz), and the interference didn't end before the beginning of the 15m band- the lower 100kHz of the band is wiped out by the BPL. Residual carriers could be detected in the 15m band up to around 21.16 MHz. The signals in the 17m band never dropped below "S-9+20dB", and were the same at the low end of 15m.

I traveled North on Liberty St to determine how far away from the end of the test zone I could still detect the interference. In my first report, I stated that I was 1.5 miles north of the Court St end of the zone and it was still detectable. This time, the range was a bit less. I had "S-2" to "S-5" signal levels at 0.8 miles from the end of the trial area. They might have been detectable farther north, but the general level of ambient noise seemed higher than on my first visit, and may have contributed to the apparent reduction in propagation. Moving East from the trial zone, I was still able to detect BPL at "S-2 to S-5" levels at distances greater than 0.5 miles from the lines.

Signals which were present in the entire 17 meter and the lower portion of the 15 meter band on my arrival in Penn Yan were not readable through the noise generated by the BPL system.

I have included, as attachments to this document, excerpts from the appropriate portions of the FCC Rules, parts 5 and 15 for reference.

So, what I concluded from this visit is the following: DVI (the provider) has made an attempt to reduce the interference to the Amateur spectrum in Penn Yan. They have been partially successful.
1) The 10m band (28.00-29.70 MHz) is clear of any BPL (it was completely covered with BPL during my first visit).
2) An attempt has been made to notch out BPL from the 15m band (21.00-21.45 MHz).
3) An attempt has been made to notch out BPL from the 12m band (24.890-24.990 MHz).
4) No attempt has been made to remove BPL from the 17m band. The 17m band (18.068-18.168 MHz) is completely covered up with strong BPL (as it was on my first visit).
5) The 15m band is only partially cleared of BPL. The lower 100kHz of the 15m band is completely covered up with strong BPL (the entire 15m band was covered up during my first visit), and residual carriers exist up to about 21.16 MHz.
6) The 12m band is only partially cleared of BPL. The lower 20kHz of the 12m band is completely covered up with strong BPL (the entire 12m band was covered during my first visit). In addition, the notch in the 12m band is rather ineffective- the residual signals never disappear.

The equipment on which I observed this interference was the following: A Yaesu FT-100D transceiver, which has now had it's "S" meter calibrated and shows "S-9" with 48uV of RF into the antenna port at 24.9 MHz. It varies by a few microvolts around this value across the spectrum from 14 to 50 MHz. Most measurements were made in the AM detection mode, with a 6kHz IF filter in place- the SSB and FM modes were used for comparison. AGC cannot be disabled on this receiver. My Tarheel M200A screwdriver antenna for measurements at or below 30 MHz- the antenna was resonated for each frequency monitored. A PAR 6m Omni-Angle horizontally polarized mobile antenna for measurements made near 50 MHz. A base-loaded vertical whip antenna

(magnetically mounted and resonated at 35MHz) on the roof of the vehicle for measurements made in the 30-40MHz range.

REQUESTED ACTION BY THE FCC

I formally request that the FCC order the BPL system in the city of Penn Yan, NY shut down until the interference generated by this system can be eliminated. My operations there, and the operations of other Amateurs are severely affected by the interference generated by the BPL system in Penn Yan. I am further concerned that no action has evidently been taken with respect to my first complaint of interference in this case. I note that during a web search, I discovered that there are licensed commercial/emergency services users of the spectrum above 30 MHz in Penn Yan whose operations may be in jeopardy due to the level of interference.

I would appreciate a response to this complaint.

Respectfully submitted May 24, 2004,
David V. Hallidy
FCC-authorized Amateur Extra Class licensee: K2DH
Email address: k2dh@frontiernet.net

ATTACHMENT 1- ORIGINAL FCC COMPLAINT, Dated March 28, 2004

My name is David Hallidy
My address is: 1027 Rousseau Drive, Webster, NY 14580
My telephone number (day or night) is: (585) 872-0942

With this email, I am registering an official complaint of interference to the operation of my mobile Amateur Radio Station. My FCC-issued callsign is: K2DH, Amateur Extra Class.

On March 27, 2004 I was travelling through the city of Penn Yan, New York and attempting to operate on frequencies in the 15 and 10 meter Amateur bands. I encountered very high levels of noise on both those bands, and upon further investigation, also on the Amateur 17 and 12 meter bands. The levels of interference I observed were, at times, as strong, or stronger than an S9 level as indicated on the Signal Strength Meter in my Yaesu model FT-100D transceiver. At this level, the stations I was attempting to contact were essentially unreadable, even though they were at times as strong as S9 (which corresponds to a level greater than 50dB above the noise floor).

The character of the noise is interesting, in that it isn't confined to a particular frequency or group of frequencies, but instead, occupies the entire spectrum from somewhere below 18Mhz to greater than 30MHz. I found this while tuning the receiver trying to pinpoint the source of the interference. The noise seems to consist of a series of closely-spaced tones or carriers, with intermittent bursts of digital modulation on them.
After some investigation, I concluded that the noise was emanating from the overhead power lines in one part of the city. My conclusion, after further discussion of this with other Amateurs, is that this interference was caused by the Amperion Broadband over Power Lines(BPL) system installed in part of the city of Penn Yan. I could not use the 17, 15, 12, or 10 meter ham bands until I was at least 3/4 mile away from the strongest point of the interference, which by my measurements is on Liberty Street in Penn Yan.

I would like to discuss this interference with you, so that the problem may be resolved and the interference stopped before it causes shutdown of a vital communications service in Penn Yan, putting life and/or property at possible risk.

I can be reached at the telephone number indicated at the top of this email, by email, or by regular postal mail at the above indicated address.

Thank you for your immediate attention to this matter.

Sincerely,
David V. Hallidy
FCC-issued callsign: K2DH
email address: k2dh@frontiernet.net

ATTACHMENT 2- EXCERPTS FROM 47C.F.R. PARTS 5 and 15

CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION

PART 5--EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)--Table of Contents

Subpart B--Applications and Licenses

Sec. 5.85 Frequencies and policy governing their assignment.

(a) Stations operating in the Experimental Radio Service may be authorized to use any government or non-government frequency designated in the Table of Frequency Allocations set forth in part 2 of this chapter, provided that the need for the frequency requested is fully justified by the applicant.

(b) Each frequency or band of frequencies available for assignment to stations in the Experimental Radio Service is available on a shared basis only, and will not be assigned for the exclusive use of any one applicant, and such use may also be restricted to one or more specified geographical areas. Not more than one frequency in a band of frequencies
will normally be assigned for the use of a single applicant
unless a showing is made demonstrating that need for the assignment of additional frequencies is essential to the proposed program of experimentation.

(c) Frequency assignments will be made only on the condition that harmful interference will not be caused to any station operating in accordance with the Table of Frequency Allocation of part 2 of this chapter.

(d) * * *

(e) The Commission may, at its discretion, condition any experimental license or STA on the requirement that before commencing operation, the new licensee coordinate its proposed facility with other licensees that may receive interference as a result of the new licensee's operations.

(f) * * *

PART 15--RADIO FREQUENCY DEVICES--Table of Contents

Subpart A--General

Sec. 15.5 General conditions of operation.

(a) Persons operating intentional or unintentional radiators shall not be deemed to have any vested or recognizable right to continued use of any given frequency by virtue of prior registration or certification of equipment, or, for power line carrier systems, on the basis of prior notification of use pursuant to Sec. 90.63(g) of this chapter.

(b) Operation of an intentional, unintentional, or incidental radiator is subject to the conditions that no harmful interference is caused and that interference must be accepted that may be caused by the operation of an authorized radio station, by another intentional or unintentional radiator, by industrial, scientific and medical (ISM) equipment, or by an incidental radiator.

(c) The operator of a radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected.

(d) * * *

Sec. 15.15 General technical requirements.

(a) An intentional or unintentional radiator shall be constructed in
accordance with good engineering design and manufacturing practice. Emanations from the device shall be suppressed as much as practicable, but in no case shall the emanations exceed the levels specified in these
rules.

(b) An intentional or unintentional radiator must be constructed such that the adjustments of any control that is readily accessible by

or intended to be accessible to the user will not cause operation of the
device in violation of the regulations.

(c) Parties responsible for equipment compliance should note that the limits specified in this part will not prevent harmful interference under all circumstances. Since the operators of part 15 devices are required to cease operation should harmful interference occur to authorized users of the radio frequency spectrum, the parties responsible for equipment compliance are encouraged to employ the minimum field strength necessary for communications, to provide greater attenuation of unwanted emissions than required by these regulations, and to advise the user as to how to resolve harmful interference problems (for example, see Sec. 15.105(b)).

Sec. 15.17 Susceptibility to interference.

(a) Parties responsible for equipment compliance are advised to consider the proximity and the high power of non-Government licensed radio stations, such as broadcast, amateur, land mobile, and non-geostationary mobile satellite feeder link earth stations, and of U.S. Government radio stations, which could include high-powered radar systems, when choosing operating frequencies during the design of their equipment so as to reduce the susceptibility for receiving harmful interference. Information on non-Government use of the spectrum can be obtained by consulting the Table of Frequency Allocations in Sec. 2.106 of this chapter.

(b) Information on U.S. Government operations can be obtained by contacting: Director, Spectrum Plans and Policy, National Telecommunications and Information Administration, Department of Commerce, Room 4096, Washington, DC 20230.

ımes Burtle

rom: Jrpmccoy@aol.com
ent: Sunday, June 06, 2004 11:42 AM
o: James Burtle
c: ebalsley@villageofpennyan.com; jdloe.jdlsm@comcast.net
ubject: Claims of BPL noise in Penn Yan and resolution.

r. Burtle,

ım the president of DVI, the company that has a limited BPL deployment in Penn Yan. Welcome to the very center of the battle ətween the ARRL and BPL. I have all the documentation regarding our successful resolution of the BPL noise issues in the llage. The recent claims submitted to you from Mr. Halliday are tantamount to fraud. I am available to discuss this and provide əfinitive evidence of the resolution in ARRL's own writing including Mr. Halliday's.

VI in conjunction of the Village of Penn Yan and Amperion have expended significant resources in the tuning of the BPL ətwork. Local Hams have worked hand in hand to accomplish this.

Will be out of office on Monday but please contact me otherwise.

incerely,

ɔseph R. McCoy, PE
resident & CTO

ww.godvi.com

rom: "James Burtle" <James.Burtle@fcc.gov>
o: <ebalsley@villageofpennyan.com>
ubject: Question from the FCC
ıate: Wed, 26 May 2004 13:28:41 -0400
lessage-ID: <BF17D4F30776D441B05165F92C68ACD1027BEF6D@p2pxmb01.fccnet.win.fcc.gov>
IIME-Version: 1.0
:ontent-Type: multipart/alternative;
ɔoundary="----=_NextPart_000_0094_01C44BA3.5EF0AC40"
:-Mailer: Microsoft Outlook, Build 10.0.2627
:-OriginalArrivalTime: 26 May 2004 17:28:41.0934 (UTC) FILETIME=[E3A6AEE0:01C44346]
:-MimeOLE: Produced By Microsoft MimeOLE V6.00.2800.1409
:-MS-Has-Attach:
:-MS-TNEF-Correlator:

'his is a multi-part message in MIME format.

----=_NextPart_000_0094_01C44BA3.5EF0AC40
:ontent-Type: text/plain;
:harset="Windows-1252"
:ontent-Transfer-Encoding: 7bit

Ir. Balsley,

ıs I mentioned in our telephone conversation earlier today, we have ɛceived a few interference complaints related to your Broadband Over 'ower Lines (BPL) experiment. Soon I will forward to you the e-mail omplaints that we have received to date. If you have received omplaints other than those forwarded, please forward copies to me.

he FCC is interested in what has been done to resolve the interference omplaints. You mentioned to me that you have received mostly verbal

mplaints so far. Please send me a summary of your interference solution efforts thus far. I would also like to be kept informed of ur interference resolution efforts going forward.

e are sending similar requests to all BPL experimenters if we have ceived interference complaints about their operation.

ncerely,

n Burtle
hief, Experimental Licensing Branch
ffice of Engineering and Technology
ederal Communications Commission

mes Burtle

om: Jrpmccoy@aol.com
ent: Friday, June 18, 2004 11:15 AM
o: James Burtle
ubject: Follow-up to BPL complaints in Penn Yan NY

. Burtle,

im providing you this overview in support of our telephone call on Wednesday. Again, DVI is the BPL company that has been eployed a broadband network in Penn Yan, NY. We are utilizing the Amperion equipment and have tuned it to avoid the local AM operator frequencies as well as the emergency frequencies in use within the village. We have not been approached by any her members with complaints but have been collecting their comments which circulate within their organization. On the 20th of oril we were invited to the local chapter's meeting. That morning we had retuned the network passed on Amperion's tuning at rogress energy to avoid all frequencies in use by the HAMs not just the local.

ote that there is a spot in Penn Yan where we can not maintain PLC on the lines due to the SNR and were not able to find the ource other than the P&C grocery store. The police have always had a problem there as well. The problem is intermittent. This the spot that Mr. Halliday chose after the meeting to listen to BPL noise. He did not find it and then accused us of turning off the etwork! I will forward the availability reports to you showing no such "outage" event ocurred. They simply were trying to read the ntermittant noise that was not there at that time. Also note that on the frequency.map we have wireless hops in that area. PLC is ot operational there.

elow are a few of the many e-mails that have transpired,

li Ed,

ong time since we last communicated, as you are aware we have a trial up nd running in Penn Yan, NY. I am aware that there have been several HAMS hat have visited the site with mixed concerns. In addition, the Mayor has eceived a letter from Mr. Sumner who has requested to do some testing in PY rovided that the BPL provider will accommodate. As I have stated in revious emails, DVI is willing to work with the ARRL to find a common round and dispel any issues and concerns.

ets talk about how we can setup a meeting in Penn Yan where you can bring our professionals and DVI can bring ours to collaborate together in a esting effort as apposed to us both waiving our sabers at each other. Lets ork together....I am very open to discussion regarding any and all issues egarding BPL and any related interference..

Please call me at my number below to get the ball rolling..

Regards,

Marc J. Burling

Chairman & CEO
Data Ventures Inc. (DVI)
Ph: 315-868-9444
www.godvi.com

----Original Message----
From: Hare,Ed, W1RFI [mailto:w1rfi@arrl.org]
Sent: Thursday, November 20, 2003 3:20 PM

o: info@godvi.com
c: Steve Greene (E-mail)
ubject: Amateur Radio and BPL

lello,

'lease forward this to Mr Burling and Mr McCoy.

am sure pretty aware of ARRL and our role in Amateur Radio. I understand hat DVI is involved in the upcoming BPL trial in Penn Yan, NY. I am)leased to hear that you are working with the local amateur community. If I :an be of any help interfacing at the national level, I can serve as a echnical point of contact or I can help you interface with other parts of \RRL.

For starters, you may want to review ARRL's BPL information at ittp://www.arrl.org/bpl. None of the trial areas in the video are Amperion, but they use the DS-2 chipset as seen the Ambient system documented in trial area #4.

73,
Ed Hare, W1RFI
ARRL Lab
225 Main St
Newington, CT 06111
Tel: 860-594-0318
Internet: w1rfi@arrl.org
Web: http://www.arrl.org/tis

Joe,

I sent this to Jon and talked to Dave, can we be there...
—— Original Message ——
From: The Kingsleys
To: info@godvi.com
Sent: Sunday, April 18, 2004 4:30 PM
Subject: BPL in Penn Yan

My name is Rick Kingsley and as president of the Yates Amateur Radio Club, and A.R.E.S. coordinator for the county, I most cordially invite one of your representatives to attend our next monthly meeting. I realize that this is extremely short notice, but I feel your presence there might help to clear up and / or better explain some of the issues and concerns with BPL as it applies to the Amateur Radio Service. Please be our guest(s), at our April 2004 meeting, to be held on Tuesday, April 20, 2004. The club meets in the basement of St. Michael's Church, which is located on Liberty St....directly across from the P&C Market. Feel free to contact me, for more detailed directions if needed.

I will look forward to your attendance!

Respectfully: R. A. Kingsley

Hi Rick,

I happened to notice the response that was posted by Dave Halliday, for the record, Dave Simmons is not being compensated by DVI, and also the network was not shut down by Mr. Loe. It was up and functioning. As I mentioned we have introduced new software that allows us to notch out HAM frequencies, it appears that it is working as documented by Mr Hallidy in this statement:.

"We went outside and those that were left wanted to see my mobile setup and hear the interference. Guess what? IT

AS GONE!!! THE SYSTEM HAD BEEN SHUT DOWN, either in the time before Simmons and Loew got to the eeting (maybe why they were late), or when Loew slipped out the door at the end. Everything was gone, completely"

i sure that you are aware that this completely contradicts previous statements which could give your chapter and the league a ry big black eye.

is not my intention as would be by other BPL companies to take this information and use it to drag you through the mud. Lets lk to determine if in fact we have been able to deploy the first BPL network that is interference free.

—— Original Message ——
From: The Kingsleys
To: Marc J. Burling
Sent: Tuesday, April 20, 2004 10:35 PM
Subject: Re: BPL in Penn Yan

Hello Marc, thanks for sending Jon down this evening. We had a big turnout, and very interesting meeting. Jon was in the "cat-bird seat" as its sometimes called, but did very well and hopefully we sent him on his way without too many wrinkles! As it stands, there are still many unanswered questions, and further testing will help us unravel remaining concerns. There is more at stake here, besides the Amateur Radio Service, and these issues still need more clarification...better addressed by perhaps someone from Amperion's technical staff. One thing was clear, however, in that everyone present tonight felt it imperative to meet again, with representatives with the expertise necessary to field questions of a more technical nature. You and I will be talking again, I'm sure, and I will again reiterate my thanks to you for providing representation on such short notice!
Sincerely: R. A. Kingsley

—— Original Message ——
From: Marc J. Burling
To: The Kingsleys
Sent: Tuesday, April 20, 2004 10:21 AM
Subject: Re: BPL in Penn Yan

Hey Rick,

I will have Jon Loe at the meeting, I tried your work number with no success, said the number was invalid so I left a me VM at your home. We have notched out the HAM bands as of 4-19-04, lets see how things work now.

I want to work with everyone to make this thing work if it is technically possible....

—— Original Message ——
From: The Kingsleys
To: Marc J. Burling
Sent: Monday, April 19, 2004 5:27 PM
Subject: Re: BPL in Penn Yan

Hell again! Sorry you won't be able to attend, but I will let all know what transpired. Phone numbers for me are as follows: Home: 315-536-5092 Work (Rochester Radio) 585-435-7944 Give me a ring any time! And, thanks for the support! I knew I would be opening pandora's box here...but what the hell, someone's got to stand up for Penn Yan, right? 73

—— Original Message ——
From: Marc J. Burling
To: The Kingsleys
Sent: Monday, April 19, 2004 10:43 AM
Subject: Re: BPL in Penn Yan

Hi Rick,

Thank you for the invitation, I wish I new a little earlier as I would personally attend. Let me see if I can get some representation there.

Please supply me with a phone number where I can reach you...

| | | |— Original Message —

In BPLandHamRadio@yahoogroups.com, "Dave Hallidy" <k2dh@f...>
ote:
rongly support this move- our small radio club (the Rochester VHF
oup)
nated, at it's April meeting, well over $1000 to the ARRL Spectrum
fense
nd. We voted to make a donation from the club treasury, and it was
ely
pplemented by members reaching into their own pockets to increase
size
d meaning of the donation. The WNY Section Manager and Assistant
ction
anager came to the meeting to accept the donation, and we have
ceived a
ry nice note of appreciation from HQ- they know it's not easy. If
u're
nember of a club, suggest such a donation at your next meeting (and
e
nount isn't as important as the gesture, by the way)- I think all of
u on
is reflector know the reasons it's important and can explain them
the
embers of your clubs who aren't so well-informed.

his fight will probably end up in the courts, and it will take $$$
make
go. The line is in the sand, folks. The ARRL has done an
utstanding
b of pointing out the realities of BPL, and the FCC's dereliction
it's
ties, and if we're to be left with our spectrum intact, we need to
pport
eir efforts- we can't do it ourselves. I've read all the comments
the
PRM (lots of time on my hands, unfortunately), and there are some
ally
ood ones, but the League's makes so many points, and so well, that
is
ist amazing. The League needs our full support, or we will have no
om to
ripe if the outcome doesn't go our way.

o Dave Sumner, Chris Imlay, Ed Hare, and all the other staff at the
eague-
ongratulations! Nice job and you have my full support!

ave Hallidy K2DH

—Original Message—
rom: n4jzo [mailto:n4jzo@y...]
ent: Tuesday, May 04, 2004 2:54 AM
o: BPLandHamRadio@yahoogroups.com
ubject: [BPLandHamRadio] Re: ARRL comments filed

es Kris, the ARRL did an Outstanding Job.
will be looking deep into my pockets to find something extra to
end them.

:d, Chris, Thanks so very much for your hard work.
:eep going.
:=>I believe the FCC CANNOT ignore your submittal.
enjoyed every word. Finally someone with the nerve to insist they
lo their job!! Excellent!!

:very ham should join the ARRL and help them fight this ridiculous
)ut HUGE threat.

Thanks ARRL!!!

Fletch
N4JZO
— End forwarded message —

— In BPLandHamRadio@yahoogroups.com, "Dave Hallidy" <k2dh@f...>
wrote:
RIGHT ON! The fight HAS only begun. I have never been called a
quitter,
and I won't be now. I won't stop fighting this thing, and I'll only
stop
hamming when they pull the key from my cold, dead fingers. Ham radio
got me
a wonderful hobby (Obsession, really) for the past ~40 years, and it
got me
the basis for a wonderful career in RF/Microwave Systems
Engineering. The
roots are too deep- this tree will never fall!
Dave Hallidy K2DH

-----Original Message-----
From: W5WRL [mailto:wlawless@w...]
Sent: Sunday, May 02, 2004 10:12 AM
To: BPLandHamRadio@yahoogroups.com
Subject: RE: [BPLandHamRadio] Steve Waldee's "take" on BPL

The give up and die is one camp that I will not join. Steve and most
of the
other hams I know can.

I see this fight as far from over. This is a severely flawed
technology that
is being touted by a bunch of non technical politicians as the
deliverer of
broadband to the masses. They are wrong and it will become evident in
due
time.

Give up? Are you kidding? The fight is just getting interesting.

Bill - W5WRL
— End forwarded message —

Welcome to the front line of the battle between BPL and ARRL. We have lost a $2 million investor due to this. It is a problem.

Joesph R. McCoy, PE

esident
/I
vw.godvi.com

DaveHallidyK2DHReportfromPenYann

To: <BPLandHamRadio@yahoogroups.com>
From: "Dave Hallidy" <k2dh@frontiernet.net>
Mailing-List: list BPLandHamRadio@yahoogroups.com; contact BPLandHamRadio-owner@yahoogroups.com
Date: Tue, 30 Mar 2004 11:28:16 -0500
Subject: [BPLandHamRadio] Report Of Visit To Penn Yan, NY BPL Test Site

All- As you no doubt are aware, there is a BPL test site operational in Penn Yan, NY. This was reported recently in the Wall Street Journal, with a local ham in Penn Yan being "satisfied there is no interference".

On Saturday March 27, 2004 I drove from Rochester, NY (my home) down to Penn Yan(about an hour's drive) to listen for myself, to confirm or disprove the report.

The system in Penn Yan is an Amperion system and a visit to their website shows them proudly quoting Mr. David Simmons, the individual reporting "no interference in Penn Yan". The poletop devices are Amperion "Griffin 1000" units. Amperion uses 2.4GHz to bring the BPL to the subscribers, after taking it off the MV lines.

My equipment for this test was my mobile ham setup, which consists of a Yaesu FT-100D and a Tarheel MT300A Screwdriver Antenna with automatic control for tuning on any frequency between 2.5 and 30MHz (I also have an Ameritron ALS500M 500W mobile HF amp in the truck for transmitting, but this was a receiving test, so I didn't turn it on). Following is my report of the experiences and observations during the trip:

"I just returned from my trip to Penn Yan to search for the BPL system there, and give it a listen. Following are the findings and some possible conclusions as to why there have been no complaints about this system:

1) I (K2DH) visited Penn Yan with my wife Diane, WB2QCJ (Dean Keyser), and we were joined later by N2JC (Jim Collinsworth)- today March 27, 2004 between approximately 10AM and Noon.

2) The system is installed on Liberty Street between Keuka and Court (something like 9 blocks).

3) They tap the BPL signal off one of the top wires on the poles running down the East side of Liberty, and feed the signal to a box at the pole top which contains the 2.4GHz equipment and a small vertical antenna. I've attached a picture of a poletop so you can see what's going on.

4) Not all poles in the test area have taps/2.4GHz boxes on them. In one area, two adjacent poles did, otherwise, is was more spread out (every three or four poles, as I recall).

5) Dean and I discovered interference- PLENTY OF IT. I think it's significant that we both HEARD the interference BEFORE WE FOUND THE EQUIPMENT- we didn't even know for sure where the test area was (being unfamiliar with the streets in the town). But, parked at the local grocery store, we found the signals very quickly and then discovered that they were right above our heads!

6) The BPL noise appears to start in earnest around the bottom of the 17m band (18MHz) and continues upwards. Most of what is heard is a series of closely spaced tones (maybe 1kHz apart), with modulation which sounds like a "tick-tick", or a buzz, or a combination of the two. Once we started tuning above 18MHz, there were no frequencies where these sounds were not observed in one form or the other. The highest frequency on which I detected any signal was around 38MHz. The signals were pretty uniform from 18->30MHz. Above there they began dropping out and only short pulses could be heard from 35-38MHz, along with an occasional stronger tone-like birdie. I also found fairly discrete signals at 3821kHz- very strong, and at 14317kHz- very strong (some noise was modulating these signals at a low level, but

in general, the 80 and 20m bands were otherwise quiet). I could detect no BPL signals on 40m. I did not listen to the 60m band (I forgot). Note: by "very strong" I'm talking about S9 or greater, with an S0 reference. The signals from 18-30Mhz also were at or above S9, and my attempts to take them down to the noise floor of the receivers were generally unsuccessful. I turned OFF the internal preamp of the FT-100 and turned ON the internal 12dB attenuator, and could not eliminate the signal (I think this corresponds to a little over 30dB of total attenuation). It appeared, from the remaining level of signal after these attempts, that the signals were at least 40dB above the noise floor at most frequencies (actually, Dean did better than I

with this, putting in 50dB of pad at one point and being unable to completely lose the signal- this corresponds with the S9 levels we saw, which equates to 54dB above the noise at 6dB/S-unit).

7) The highest level of noise is, as one would guess, when located closest to the overhead lines carrying the signal. Within 1/4 to 1/2 mile of the lines, interference is strong, ranging from S5 to S9. But, in one test, I went up Liberty past the test area to see how far Northward the signal could be detected, and I was 1.5 miles North of the northern boundary and it was still S2-S5 at 24.5MHz. I then proceeded Eastward to see how far from the test area in that direction it could be heard and it was a shorter distance- about 3/4 mile. This was due, I think, to the fact that the test area is on the West side of the center of town and the signal had to propagate through all the buildings of town (I did not attempt to travel Westward from the lines, as this area appeared to be wooded and difficult to pass through). That said, I was able to detect the signal at 14317kHz for over FIVE MILES from the test area, as we left town to come home!

8) For those who may doubt my story, I tape recorded as much of it as I could, and it can be listened to at anytime- there's a narration along with it to document the time, frequency, and location of each sample recorded. I'll try to generate a .wav file of parts of it, and if successful, I'll distribute it.

9) As far as my notes with regard to where I finally lost the ability to detect signals above 38MHz, I have to mention that from 30-38MHz, my mobile antenna cannot be resonated, so the apparent decrease in signal strength may not be correct- a resonant antenna may provide quite different results.

10) My equipment- A Yaesu FT-100D as the receiver, a Tarheel MT300A Screwdriver on the rear bumper of the truck as the antenna- this antenna is microprocessor-controlled to autotune to the frequency of the radio, using an AMAC SC1C controller and in all cases below 30Mhz, was tuned to <1.5:1 VSWR (I turned OFF the antenna controller when listening on a frequency so as not to detect any possible signals from that unit- there are a few). I varied the detection scheme between AM, SSB and FM numerous times to see what differences I could make in the receiver's ability to detect the BPL signal. There is actually FM modulation on the signal to the point that in FM mode, I could still easily recover plenty of audio. I could not turn off the receiver AGC- that option is not available in the FT-100D. I DID try running with and without the Noise Blanker, and could see no difference- the blanker could not set up on the noise to reduce it's level. WB2QCJ's equipment- A radio from RF Communications Div of Harris Corp and a pair of antennas selected by Dean as appropriate.

11) Our conclusion from this exercise: The reason there have been no complaints about this system is that no one operates 17, 15, 12, or 10m in the test area (if any do in the Penn Yan area at all). In fact, Dean only found one obvious ham antenna in the town, a dual-band 2m/440 vertical (we didn't do an exhaustive search, but there were no obvious Amateur towers anywhere in town). Think about it- right now, we're in a solar cycle minimum. Those who might be inclined to operate on 10m probably don't right now, and there is never THAT much activity on the 17 and 12m bands anyway. By the way- the 11m band- CB- was WIPED OUT by the noise. Coincidentally, this weekend was the WPX contest and it so happened that 15 and 10m were open when we were in Penn Yan- signals were difficult to impossible to copy

through the noise, except for those well above S9. KB2ITN, Dave Simmons, the individual quoted in the Wall Street Journal article as being "satisfied that there is no interference" is a General Class licensee. As a General, he CAN operate 17, 15, 12, and 10m, but may choose not to and therefore may have missed what's there. He owns an electronics shop in downtown Penn Yan called Simtronics.

There you have it. I've tried to be as factual in this report as possible. Hopefully, there are no glaring technical errors. I welcome questions and constructive comments.

Regards, Dave Hallidy K2DH"

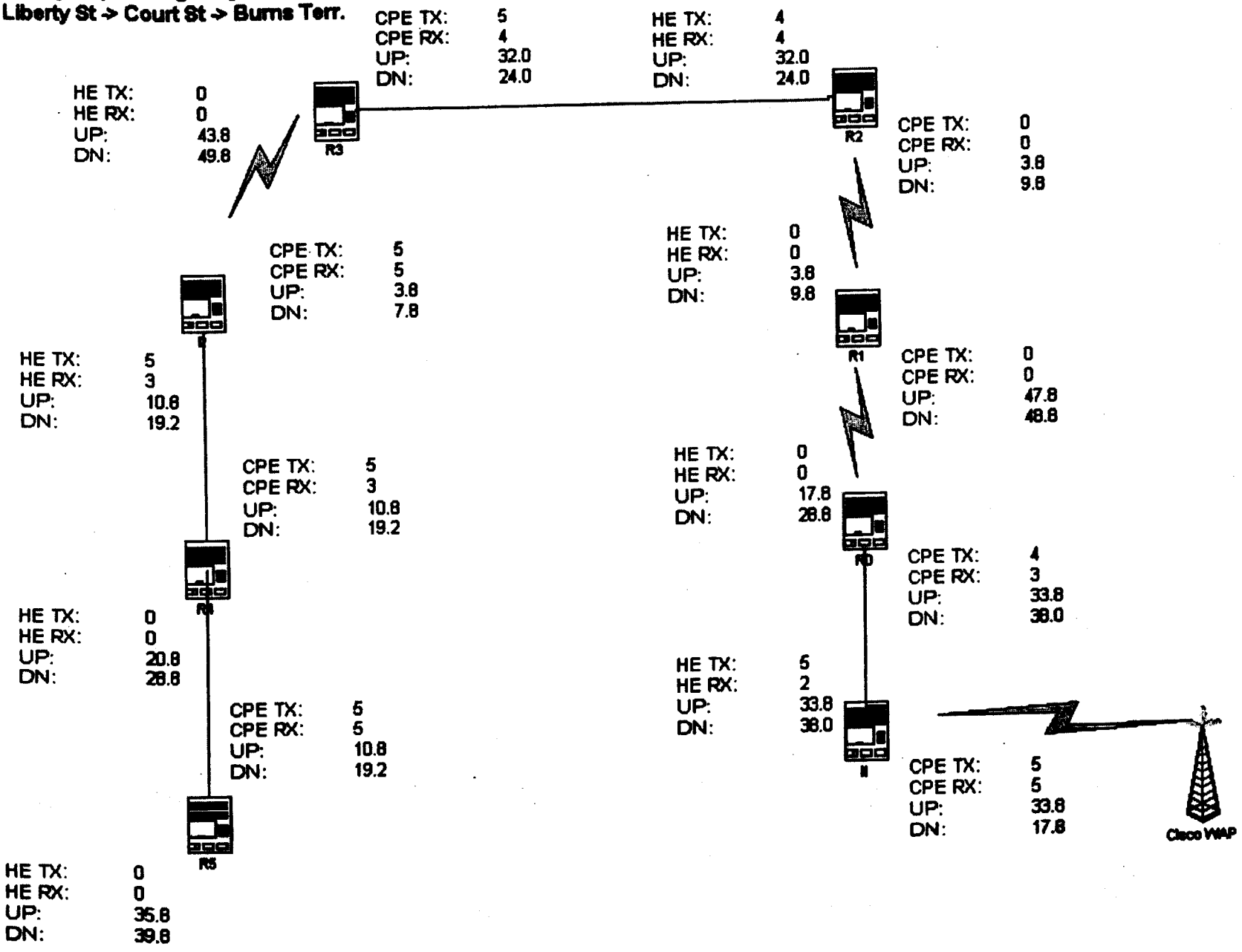
A couple of things- first, you can hear the audio of this interference by going to http://www.rvhfg.com (the Rochester VHF Group website). There is a link on the front page to take to you to the downloads section and you can select the "Penn Yan BPL" download. It's a big MP3 file- about 16MB, so be patient. Also, be aware that my tape recorder was old and tired- the wobble you hear in the signal IS NOT the BPL, it's my tired tape machine- I gotta get a new one! I've also attached a photo of one of the poletops to this email (hope that's not against the policies of this list- if so, I apologize).

Also note: After the event, I lodged a formal interference complaint to the FCC, and I sent an email to Amperion, advising them of my observations and subsequent actions. Amperion has not responded, the FCC has indicated they will have a formal response within 20 days.

I hope this information is helpful- if you have any questions about what I did, please feel free to ask me!

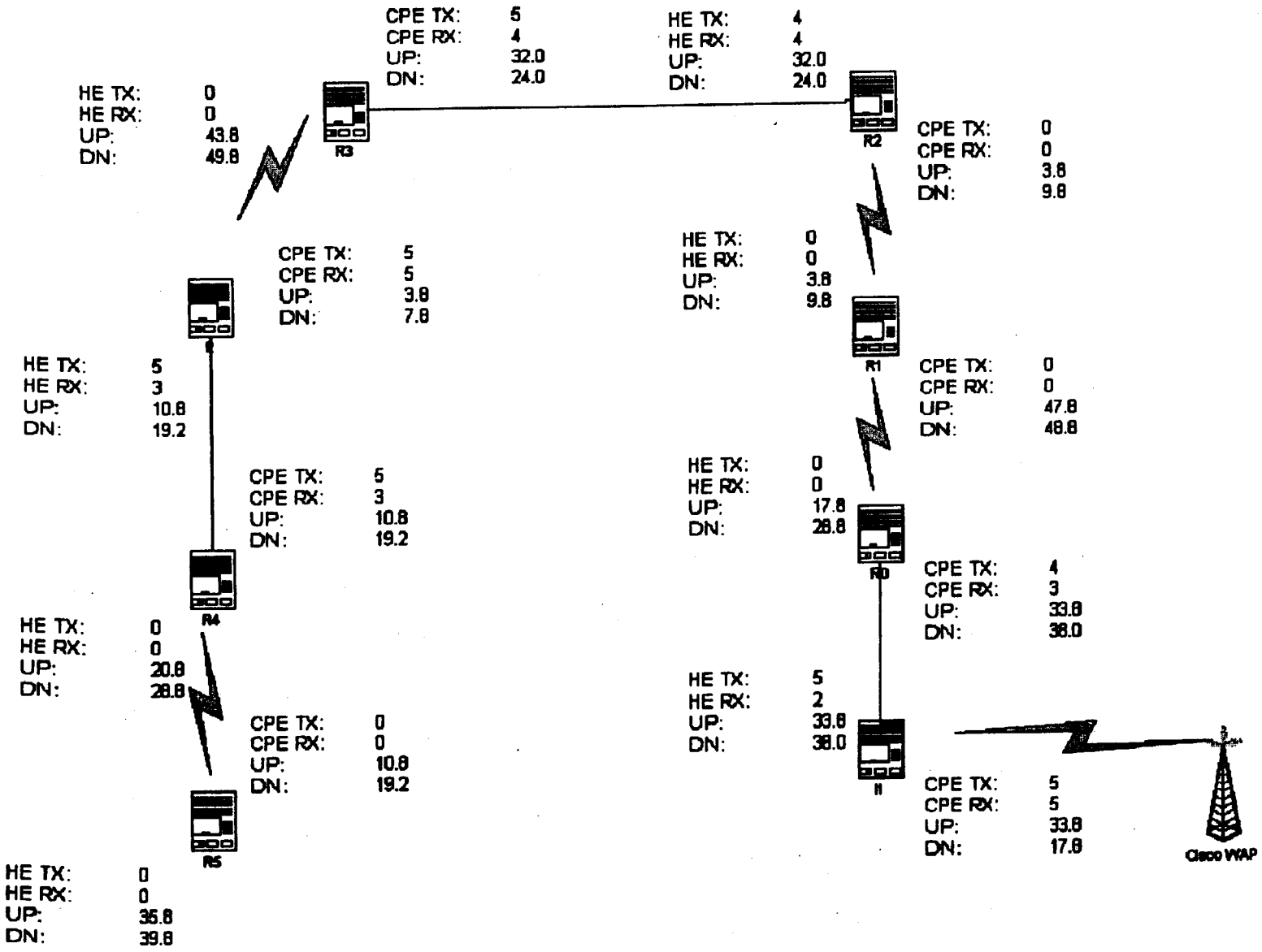
Dave Hallidy K2DH

Frequency Map for Leg 1: [4.20.04]
Liberty St -> Court St -> Burns Terr.



Penn Yan Frequency Map [4.26.04]

Liberty st → Court St. → Burns Terrace



--- In BPLandHamRadio@yahoogroups.com, "Gary" <n0jcg@a...> wrote:
Dave;
Great report! This is an excellent illustration of the power a prepared ham, or group of hams, have on the local level. The BPL proponents have 'promised' themselves into a corner where they can't deliver. It will be up to the local hams, who are better educated and more experienced at HF communications, to point this out thereby completely blowing the credibility of the BPL proponents with their customer, the utility.

Again, Bravo!

--- In BPLandHamRadio@yahoogroups.com, "Dave Hallidy" <k2dh@f...> wrote:

snip;
> When my wife and I got to Penn Yan, we had the receiver on in the truck, and
> could, as we expected, detect the BPL interference just as it had been on my
> previous visit- over S9 on 24.9MHz as I drove to the meeting location (a
> church near the trial area).
>
> It should be noted here that Simmons and Loew arrived at the meeting at
> least 20 minutes late, together, and came in during Ayers presentation.
>
Several people
> asked them questions, including me- I asked Loew why there was no
> experimental license for the Penn Yan trial, and he said he had been
> concerned about that, but that it was an Amperion question- I agreed. I
> also asked if the Amperion boxes had Part 15 compliance stickers on them,
> and if so, where they were located. Loew and Simmons replied that they
> thought so, but weren't sure where they would be, probably on the inside. I
> reminded them that FCC states that the stickers must be in a "conspicuous
> location" and that inside the box wasn't such a location. Loew stated that
> the people should not be concerned, they (DVI) were committed to an

> interference-free system in Penn Yan. He was then asked what people could
> do if they felt they needed to complain to DVI about interference so that it
> could get taken care of. His reply was, "You can call the Operations
> Center." When asked for the phone number, he replied, "I don't have it-
> call me instead." and GAVE US HIS CELL PHONE NUMBER! I asked him how the
> company expected to make any money supplying this service to the rural
> customers (there were a number of people from well outside the city
> present), and his reply was "WE NEVER STATED THAT WE WOULD BE SUPPLYING BPL
> TO THE FARMERS SPREAD MILES APART- WE'RE DEPLOYING THE SERVICE IN SMALL
> CITIES AND TOWNS." I then reminded him of FCC Chairman Powell's statement
> when the NPRM was released "I am optimistic and welcome the day when every
> electrical outlet will have the potential to offer high-speed broadband and
> a plethora of high-tech applications to all Americans." His comment was
> (this is beautiful!) "I read Chairman Powell's statements every day- he
> never said that."
>
> Several members then started asking me questions (they had been to our
> club's website and heard the recording there), and I did my best to answer
> them. My main point in being there was to make sure that these people, if
> they had experienced interference, would lodge complaints to the FCC, and to
> make sure that they understood the importance of commenting on the NPRM. So
> my thrust was there. But I did offer to let anyone who hadn't heard the
> interference yet, come out to my truck after the meeting and I'd give them a
> demo.
>

> At this point, the topic had been pretty well covered, so the meeting
> officially ended. I asked for their business cards, Simmons gave me his,
> but Loew "Didn't have any." I gave them mine. Simmons and Loew got up to
> leave, but Simmons was cornered by several members who wanted to ask more
> questions. Loew quietly slipped out the door. Ayers and I answered a few
> more questions, then it was time to go.
>
> We went outside and those that were left wanted to see my mobile setup and
> hear the interference. Guess what? IT WAS GONE!!! THE SYSTEM HAD BEEN
> SHUT DOWN, either in the time before Simmons and Loew got to the meeting
> (maybe why they were late), or when Loew slipped out the door at the end.
> Everything was gone, completely. Interestingly, this explains why I got an
> email from a ham who went to Penn Yan last Saturday (4/17) and found
> nothing, yet another person (this one from Harris Corp) was there on the
> same day and heard everything just as I had reported it. I think this
> action speaks even louder than the interference about just what is going on
> here, and does not present the BPL providers in a positive light at all.
>
> I was able to convince several people to lodge formal complaints to the FCC
> about the interference they had experienced, and I believe they will.
>
> I'm sure there's more to come from this.
>
> Dave Hallidy K2DH
--- End forwarded message ---

James Burtle

From: Dave Hallidy [k2dh@frontiernet.net]
Sent: Wednesday, October 06, 2004 11:00 PM
To: Anh Wride; Alan Stillwell; Riley Hollingsworth; James Burtle; Sheryl Wilkerson
Cc: Ed W1RFI Hare; Dave Hallidy
Subject: Effectiveness Of "Notching" BPL Signals In Amateur Radio/SWL Bands

Dear FCC Staff-
I have recently seen discussions related to the FCC's opinion that notching is an effective tool to mitigate BPL interference in the Amateur Radio HF bands. I've been closely involved with monitoring the system trial that was conducted (and recently terminated) in Penn Yan, NY. I'd like to share with you my experiences and observations that contradict this opinion.

DVI (the BPL provider in Penn Yan) and their equipment supplier, Amperion, used notching to attempt to reduce the level of BPL interference observed by me and others. In my initial complaint to the FCC in late March, 2004, I noted that strong BPL signals were observed continuously from below 18 MHz to above 30 MHz. DVI and Amperion reported that they had worked to improve the situation and on my second visit (in late May, 2004), I observed the following (I would also note here that the FCC never replied to any of my complaints in this matter)(the information below is excerpted and quoted from my second official complaint to the FCC):

"DVI (the provider) has made an attempt to reduce the interference to the Amateur spectrum in Penn Yan. They have been partially successful.
1) The 10m band (28.00-29.70 MHz) is clear of any BPL (it was completely covered with BPL during my first visit).
2) An attempt has been made to notch out BPL from the 15m band (21.00-21.45 MHz).
3) An attempt has been made to notch out BPL from the 12m band (24.890-24.990 MHz).
4) No attempt has been made to remove BPL from the 17m band. The 17m band (18.068-18.168 MHz) is completely covered up with strong BPL (as it was on my first visit).
5) The 15m band is only partially cleared of BPL. The lower 100kHz of the 15m band is completely covered up with strong BPL (the entire 15m band was covered up during my first visit), and residual carriers exist up to about 21.16 MHz.
6) The 12m band is only partially cleared of BPL. The lower 20kHz of the 12m band is completely covered up with strong BPL (the entire 12m band was covered during my first visit). In addition, the notch in the 12m band is rather ineffective- the residual signals never disappear."

As you can see, in their attempts to move and notch the BPL spectrum to mitigate interference, Amperion demonstrated only limited control of their hardware. I also have observed that energy from the Amperion BPL system is not well-contained within it's intended spectrum blocks. Residual signals spill over into neighboring spectrum. These signals ARE weaker than the main "intended" signal, but only attenuate gradually as one tunes away from the edge of the main signal.

In addition to interference in the Amateur bands, apparently no one at DVI or Amperion had given any thought to interference to the International Shortwave Broadcast Bands. The system in Penn Yan showed no attempt to notch or reduce interference there in any way, and moderately strong signals in the SWBC bands were obliterated by BPL.

My belief is that at some point in time, the technology employed by the manufacturers of BPL equipment will be both advanced enough and agile enough to effectively mitigate interference by the use of notching techniques. Today, at least in the experience I've had in Penn Yan, I must conclude that the equipment presently available does not have the capability to do this.

Sincerely,

David Hallidy K2DH
663 Beadle Road
Brockport, NY 14420
585-637-0696